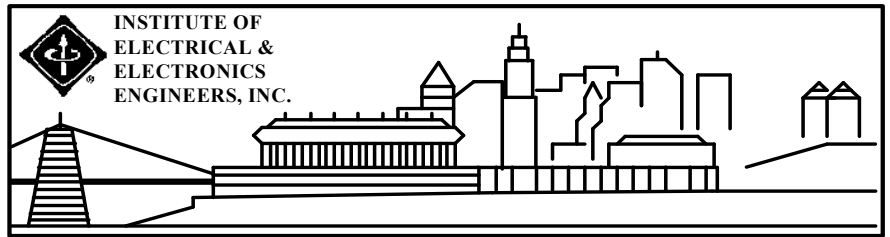


**IEEE CINCINNATI
SECTION
NEWSLETTER
SEPTEMBER 2000**



**SEPTEMBER MEETING
TOUR OF THE NEW PAUL BROWN STADIUM**

DATE : September 21, 2000

PLACE : Paul Brown Stadium (see below for directions and parking information).

TIME : 7:00 p.m. - Meet in the Touchdown Room in the Administration Building (across the street from Lot E and up the winding sidewalk)
10:00 p.m. - Adjournment (approximate)

ATTENDANCE IS VERY LIMITED!!!
NOTE THAT THIS IS NOT A DINNER MEETING!!!!

THE CINCINNATI SECTION NOW HAS ITS OWN VOICE MAILBOX for making reservations for meetings or for providing comments or suggestions to **YOUR** Executive Committee.

Please call the Cincinnati Section Voice Mailbox at 629-9380, by **Noon, Tuesday, September 19, 2000** if you plan to attend. Please leave your **Name** and **IEEE Member Number**.

ABOUT THE TOUR: The details of the tour are still being negotiated. We hope to include a tour of the scoreboard operations, the players' locker room, electrical equipment rooms, and the Stadium Club Level. There will be a substantial amount of walking. The stadium is ADA accommodated, however, any members who have special needs should note those needs when making their reservations.

PARKING: Parking in Lot E (on the south side of Mehring Way across from the stadium) is free subject to change without prior notification. IEEE has no control of the parking arrangements. There is also parking available at 312 Elm Street (about \$3.00).

DIRECTIONS: From I-75 South or I-75 / I71 North - Exit at the new Second Street exit. To park at 312 Elm St., turn left from 2nd St. at Elm. The garage is at the corner of 3rd and Elm Streets. Walk straight down Elm to the Plaza level of the stadium. To park in Lot E, turn left from 2nd St. at Elm, then turn left onto 3rd Street. Take 3rd St. to Central Ave. and turn left onto Central. Central will lead directly into Lot E across Mehring Way.

From I-71 South, southbound to the Eggleston Ave. exit, turn south (left) onto Eggleston at the light. Turn right onto Pete Rose Way. Turn left at the next light (at One Lytle Place) onto Mehring Way. Proceed to Lot E. If you wish to park at 312 Elm, turn right from Mehring Way at the first light after passing the stadium (Central Ave.). Go north to 5th St., turn right onto 5th, and go 3 blocks to Race St. Turn right onto Race and go south two blocks to 3rd St. Turn right on 3rd St., and the garage is one block down at 3rd and Elm.

IMPORTANT NOTICE REGARDING THIS NEWSLETTER

Due to increasing publication costs and decreasing revenue from various sources (including the ISA/IEEE show), the IEEE Cincinnati Section needs to reduce our expenses in order to ensure the viability of the Section. Beginning in January 2001, this newsletter will only be available via the Section's web page at <http://iee.cincinnati.fuse.net/> or by e-mail unless you contact us. After January, depending on the response, the content of the newsletter may be reduced to only a notice of upcoming Section meetings and a summary of the remaining articles. The full articles would be available on the web page or via e-mail.

In order to continue receiving the hard copy of the newsletter, you must either call the Section's voice mail at 513-629-9380, or contact Bob Morrison (Editor) at 513-287-3697 or by e-mail at j.r.morrison@ieee.org. Provide your name and member number. In case there are questions, please include a daytime telephone number as well.

To subscribe to the electronic version, contact Bob Morrison.

UPCOMING SECTION MEETINGS AND TOPICS

October 19, 2000	Executive Committee Meeting - Evendale Buffet
October 21, 2000	Senior Membership Workshop
October 26, 2000	Section Meeting - Project Management (possibly Fort Washington Way Project)
December 7, 2000	Section Meeting - Fuel Cells or Microturbines
January 2001	Section Meeting - Electric Industry Deregulation
February 2001	Section Meeting - ESC Banquet
March 2001	Section Meeting - Harris HDTV Tour
April 2001	Section Meeting - PACE
May 2001	Section Meeting - DSL
May 2001	Section Meeting - Tour of Kings Island

Topics are tentative at this time. Detailed information about the Section Meetings will be included in that month's newsletter. If you are interested in attending an Executive Committee Meeting, please contact either Ron Harbaugh or Jack Beckmeyer (see last page for phone numbers).

CHAIR'S MESSAGE

by Ron Harbaugh, Section Chair

Welcome back from the summer. I hope the past three months have been very pleasant for you and the rest of the Section membership. The Cincinnati Section is getting ready to present another series of interesting meetings. The planning committee will be finalizing our monthly programs in the next few weeks. Since this message is written well in advance of any final planning, I really have very little to report. Any IEEE activity at all can be seen on the website at <http://www.ieee.org>. It's been an unusually quiet three months for the Cincinnati Section.

NEW MEMBERS

The following individuals are IEEE members who are new to our Section:

MICHELLE L. AMSHOFF

DANIEL J. HARTMAN

TERI L. PIATT

WILLIAM C. BARNETT
LAWRENCE D. BURICH
SUSHIL K. CHAUHAN
SAMIR R. DAS
SAMAN DHARMATILLEKE
DENNIS K. DIXON
DANIEL F. DLUGOS
PAMELA D. DUNHAM
PAMELA S. ECKER
R E. ENGLISH
KEVIN M. FERGUSON
JEREMIAH J. FLERCHINGER
C. N. GRAY
GLEN A. HANNON
WILLIAM J. HARMAN

KENNETH A. HUBER
JAMES L. JAEGER
CHRIS M. JAMISON
TANYA R. JONES
DEBASHISH KAR
AMIT KASAT
JERRY L. KING
DOUGLAS E. MAPES
MICHAEL J. MCMANUS
VICTOR V. MYAGKIKH
STEVE J. MYGRANT
STEVE R. NORRIS
DEASSY I. NOVITA
ED O'CONNELL
DANIEL P. ORSARY

SUJOY D. RAY
TOM ROSE
DAVID W. RUNIONS
AUGUST W. SCHUELKE
DAVID R. SCHWETTMAN
VINCENT STENGER
SAIRAVI V. SURIBHOTLA
SANDI SUWALSKI
JIANJING TANG
TODD A. VAN METER
ASHLEY KEITH WEAVER
DENNIS O. WEBSTER
JUN YAN
LI ZOU

We wish to extend our welcome to all of our Section's new members!!!

WELL-CONNECTED ENGINEER

Reprinted from IEEE-USA Perspectives, January 2000, with permission from IEEE-USA. Copyright 1999 by the Institute of Electrical and Electronics Engineers, Inc.

"Gray Dawn: How the Coming Age Wave Will Transform America - And the World," by Peter G. Peterson, New York: Random House, 1999, \$23.00

The Title, *Gray Dawn*, refers to a worldwide phenomenon in which the population of developed countries is getting older. Pete Peterson enumerates on a number of possible new strains on the social fabric - including more spending in retirement; declining savings rates that translate into sluggish productivity; more political influence for senior lobbies; a possible crowding out of public spending for research, the environment, education, and defense; and a shift in marketing toward older consumers - as 77 million U.S. Baby Boomers begin retiring after 2005.

Peterson points out that the smaller percentage of youth in the population can lead to defense changes as combat forces become harder to raise. Longer life spans could lead to ethical questions about the use of limited health care resources on the elderly versus younger persons in need. More taxation of the young wage earner to pay for obligations to older retirees could lead to intergenerational warfare.

In addition, he says that by 2012, the U.S. Social Security system will be paying out more money than is coming in. And by 2032, the trust fund will be empty.

In his earlier book, *Facing Up*, Peterson looked at the budget deficit problem in the United States, and previewed some of the recommendations in this book, for saving Social Security, including:

- Encourage longer work lives. The retirement age has dropped for most people during the past 45 years, by 3 years in the United States, to 62.3. Sixty percent of boomers hope to retire by 60. At the same time, the workforce needs more people.
- Encourage workers to save for their own retirement. Convert Social Security to a funded system with personally owned accounts. The transition would require U.S. workers to fund their own retirement at the same time that they pay for their parents' retirement.

- Add to the workforce (and thus to payroll tax collections) by increasing the birthrate and immigration - a controversial interim expedient.

- Encourage children to support their own parents in retirement through familial channels. Peterson writes that by 2023, 18.5 percent of our U.S. population will be age 65. He adds that legislators are reluctant to pass needed changes in the major elements - Social Security and Medicare - to accommodate our aging population.

Peterson's book contributes to the ongoing dialogue taking place among thoughtful people on these issues - but some of his suggested solutions will generate controversy.

*- George F. McClure, Member,
IEEE-USA Workforce Committee*

**TRAVELING EXHIBITION, "BREAKING THROUGH: THE CREATIVE
ENGINEER", IN CINCINNATI THIS FALL**


National Society of Black Engineers
University of Cincinnati
641-A Baldwin Hall, Cincinnati, Ohio 45221-0018

To: Ron Harbaugh
IEEE

June 1, 2000

Re: "Breaking Through: The Creative Engineer" Exhibit

Mr. Harbaugh,

The National Society of Black Engineers at the University of Cincinnati in conjunction with the Engineering Tribunal and Society of Women Engineers is currently sponsoring the traveling exhibition, "Breaking Through: The Creative Engineer." The exhibit will be in Cincinnati this fall for a twelve - week venue (October 1, 2000 - December 29, 2000). "The Creative Engineer" is sponsored by the Association of Science Technology Centers (ASTC) and explores how creativity is expressed in engineering through a series of eight case studies. The exhibit is an interactive, full-scale museum exhibition piece which includes puzzle stations, artifacts, and computer stations. The Cincinnati Museum Center has agreed to house the display during its Cincinnati venue.

The purpose of bringing the display to the University of Cincinnati is two - fold. First, the display will be used as a recruiting tool for both the College of Engineering. Second, the display will be used to inform the public of the many great accomplishments of engineers and to stimulate public interest in the field.

We are currently seeking input, which can enhance the quality of the exhibit. This is where IEEE and its membership can be of most help. The Museum Center is allowing us to host additional programs at Union Terminal that would support the exhibit. We would appreciate any ideas in the way of presentations, programs or guest speakers that are engineering and can be hosted at the Museum Center. Please direct all ideas to myself at 513.482.5325 (work), 513.556.7456 (home), or swdavis@messer.com.

The Creative Engineer is a unique and innovative exhibit and speaks to the more colorful side of a traditionally intimidating subject. Bringing the display to Cincinnati will create a better understanding of our highly technical field. I look forward to working with you to accomplish this task. Please feel free to visit the exhibit web site at www.eweek.org/1999.nbm/index.html. If you have any questions or concerns, please do not hesitate me at the above mentioned phone numbers.

Sincerely,
Scott Davis
National Society of Black Engineers

IEEE NEWS

New Power Engineering Tutorial from IEEE

PISCATAWAY, NJ, May 8, 2000 - Four experts from Rensselaer Polytechnic Institute of Troy, New York are the presenters for the new tutorial from IEEE, Principles of High-Voltage Engineering. This tutorial is ideal for design engineers, users, purchasing officers, operations managers, technicians, and electrical engineering or physics students concerned with high voltage equipment.

In recognition of the global, workplace, and personal preferences of our members' approach to learning, IEEE Educational Activities is offering this tutorial in a variety of modes. Principles of High-Voltage Engineering is now available as a four videotape package, interactive CD-ROM, or by video-streaming from the IEEE Video-On-Demand website.

The tutorial combines lecture, PowerPoint references, and onsite Electric Power Engineering Department laboratory demonstrations to illustrate the high-voltage principles. It is divided into four subject categories: Basic Principles of Electric and Magnetic Fields, presented by Sheppard Salon; Basic Principles of Switching, presented by Allan Greenwood; Transient Voltages in Windings, presented by Robert Degneff; and Insulation Materials and Dielectric Design, presented by J. Keith Nelson.

Integrated into the Insulation Materials and Dielectric Design portion of the tutorial are field visits to EPRI Delivery and Utilization Center at Lenox, Massachusetts. At that site, Mr. Nelson highlights functioning instruments that protect high-voltage equipment.

By the end of the tutorial, the user will:

- Obtain a fundamental understanding of the basic principles of electric field production in high-voltage equipment.
- See how switching operations and lightning can result in subjecting the equipment to high voltages.
- Obtain an understanding of the voltage distribution in windings of transformers and machines.
- Learn practical techniques to control high voltage and protect equipment.

Order Information:

IEEE Product Number (for NTSC version): HV7045 List \$780.00 / Members: \$650.00

IEEE Product Number (for PAL version): HV7046 List \$780.00 / Members: \$650.00

Web Product number: EW129. List \$199.99 / Members: \$179.99

CD-ROM Product Number: EC126. List \$755.00 / Members \$625.00

All formats can be ordered from the IEEE Customer Service Department, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331, USA; by e-mail: customer-service@ieee.org; by phone: 1.800.678.4333; at our new site on the Web: <http://shop.ieee.org/store/>. To check out systems requirements for Video-On-Demand go

to <http://ieee.mediaplatform.com/vod/ieee/index.po>. For further information on Education Activities check our website <http://www.ieee.org/eab/>

IEEE SEEKS U. S. UNIVERSITY PROGRAM EVALUATORS

PISCATAWAY, NJ, June 15, 2000 - The IEEE Educational Activities Board seeks engineering professionals from industry, government, and academe to serve as program evaluators for accrediting engineering and engineering technology programs at U.S. universities. Nominations will be accepted through October 31, 2000.

The Accreditation Board for Engineering and Technology, Inc (ABET) provides a peer review of university programs that is so important to the continuing vitality and quality of the engineering and engineering technology professions. Aside from the professional and public good that evaluators perform, there are specific benefits to the evaluators and their employers. The evaluators are trained in the Quality Process and are able to hone their decision-making skills. By virtue of being on campus, evaluators can identify potential schools and students for future recruitment. It is the ABET accreditation program which assures the quality education of those who will be the future innovators and industry leaders.

The IEEE members selected will attend a one-day training seminar on the IEEE/ABET accreditation process, one of which will take place at the June 2001 American Society for Engineering Education convention in Albuquerque, New Mexico. After training, these program evaluators will visit engineering and engineering technology departments across the country on behalf of the IEEE and ABET. Evaluation sessions take place each fall and generally run for two to three days.

Information packages, including the application and nomination forms, are available on the WWW at: <http://www.ieee.org/organizations/eab/apc/ceaa/engapplication.htm> (engineering programs) and <http://www.ieee.org/organizations/eab/apc/ctaa/techapplication.htm> (engineering technology programs). For more program information, contact eab-accred@ieee.org

IEEE AWARDS \$10,000 SCHOLARSHIP TO FLORIDA STUDENT AT INTEL INTERNATIONAL SCIENCE AND ENGINEERING FAIR

PISCATAWAY, NJ, May 19, 2000 - The IEEE Foundation sponsored Presidents' Scholarship was presented to Zlatan Ceric, a 16 year old senior at Allen D. Nease High School, St. Augustine, Florida, at the Intel International Science and Engineering Fair (ISEF), which was held from May 9-12 in Detroit, Michigan.

The IEEE judging team chose Ceric from among 1500 other contestants to receive the scholarship for his "outstanding achievement in creating a project that demonstrates an understanding of electrical engineering, information technology, or other IEEE fields of interest." Serving as judges were Don Bramlett of Detroit, MI; Keith Gudger of San Jose, CA, Sat Basu of Troy, MI, Kevin Davis of Kalamazoo, MI, Ted C. Huff of Troy, MI, and Kimball Williams of Dearborn, MI.

Ceric's project, Optimization of Gallium Arsenide Semiconductor Laser Power Output, proved his hypothesis that longer lattice edges produce lower threshold current densities and higher quantum efficiencies. It demonstrated that an increase in laser transmittance, with less power loss, would yield more efficient semiconductor lasers. This has applications in faster computing, military utility for optical warfare, and guidance of fundamental particles in nuclear reactors.

Ceric's research revealed a phenomenon never before documented. As the current increased into the laser, the power output would move smoothly, then jump suddenly to a higher power output, and then continue smoothly once again. This happened at both shorter and longer lattice lengths. He intends to continue investigating the implications of this phenomenon at Georgia Institute of Technology in the Fall, where he will study Solid State

Electro-optics and " keep looking for the optimum lattice length for the least energy loss within laser power output."

IEEE was one of 60 associations and universities presenting at the May 11 awards ceremony. IEEE President-elect Joel Snyder gave the \$10,000 award to Ceric before a crowd of nearly 4,000 people. Other IEEE entities presenting awards were IEEE Computer Society (six awards ranging from \$100 to \$500) and IEEE Region 4 (eight \$500 awards).

"This \$10,000 scholarship is the single largest award given by an organization given at ISEF. I know that our judging team had a difficult task which they discharged with diligence, care, and honor," Snyder said. "The talent demonstrated by these outstanding students from around the world is truly amazing. I applaud the students and their families for their efforts, and I congratulate the winner. I do expect to see significant contributions to technology and science from each and every one of them.

The world's largest pre-college science competition, the Intel ISEF is often called the "Olympics" of science fairs because of its international reach and scientific breadth. It is the only global science fair representing all life sciences?from biochemistry to zoology?for students in grades nine through twelve. This year's fair drew students from 40 countries, including Venezuela, Malaysia, South Korea, Italy, Australia, and China. The finalists emerged from a field of approximately one million high-school students who competed in local ISEF-affiliated science fairs in 1999-2000.

For more information, contact Lynn Murison, IEEE Educational Activities, at l.murison@ieee.org.

IEEE-USA SYMPOSIUM RATES ELECTRIC POWER RELIABILITY

WASHINGTON, May 24, 2000 - More than 100 leaders in electric power from industry, government and academia today contemplated a brave new world for electrical consumers in the not too distant future -- a time when citizens can call up the latest electric power rates on the Internet and dispatch instructions to their home to turn smart appliances on or off according to their price tolerances. IEEE-USA and the Consortium for Electric Reliability Technology Solutions (CERTS) organized a one-day symposium on "Ensuring Electric Power Reliability -- The Challenges Ahead."

In a morning panel session on reliability management, Paul McCoy, senior vice president of Trans-Elect, observed that until recently electrical reliability was ensured by the nation's top 25 public and private utilities. However, since 1995, with deregulation of utilities in 23 states plus Washington, DC, new structures have not grown to fill the reliability gap, McCoy said. He added that the transition will take longer and will cost more than imagined. When these new structures are in place, McCoy indicated, they will be doing a better job than the status quo.

In one of two morning keynote addresses at the IEEE-USA/CERTS symposium, Craven Crowell, chair and CEO of the Tennessee Valley Authority, stated that a combination of quantity and quality electricity is required to bridge the digital divide. Crowell added that electricity is "fueling the Internet age," and that an investment of patient capital is essential for future successes.

In a luncheon keynote, Kurt Yeager, president and CEO of the Electric Power Research Institute (EPRI), noted that electric power will accelerate the digital revolution and help move the nation from an industrial to a network economy. According to Yeager, electricity is the "lifeblood" of an adaptive economy.

IEEE-USA TO PARTICIPATE IN ASEM ANNUAL CONFERENCE IN WASHINGTON, DC

WASHINGTON, June 2, 2000 - IEEE-USA will participate this fall in the American Society for Engineering Management's (ASEM) annual conference as a cooperating society. This year's conference, entitled "Technical Management: Key to Enterprise Success in the 21st Century" will be hosted by The George Washington University's School of Engineering & Applied Science on October 5-7, 2000 in Washington, DC.

ASEM is a professional organization for engineering managers. The 2000 ASEM Conference will bring together leading engineering managers from across the nation, with a special emphasis on evaluating technical leadership in the Washington Metropolitan area's vibrant information systems technology sector. The Conference is intended to provide a forum for corporate management, professional engineering managers and university researchers and teachers to discuss the practice in today's rapidly evolving worldwide, industrial infrastructure. Participants will have the opportunity to exchange ideas with industry, government and academic leaders interested in the practice of leadership in engineering, scientific, and technical organizations. A special focus will be on the dynamics in the rapidly evolving information technology and telecommunications industries and the impact of technical management.

For more information and to register, visit <http://www.gwu.edu/~asemconf/>

EVOLUTIONARY COMPUTATION AND APPLICATIONS CD-ROM TUTORIAL NOW AVAILABLE

PISCATAWAY, NJ, June 15, 2000 - New from IEEE Neural Networking Society and Educational Activities is the CD-ROM tutorial entitled Evolutionary Computation and Applications. Evolutionary Computation has become the standard term that encompasses evolution strategies, evolutionary programming, and genetic algorithms. David B. Fogel, Editor in Chief of the IEEE Transactions on Evolutionary Computation and host of this tutorial has stated, "Evolution is an optimization process that can be simulated using a computer or other device and put to good engineering purpose."

This tutorial serves as an introduction to evolutionary computation and is supported by case studies from four expert practitioners and a roundtable discussion about practical implementation issues. The learner is able to access the following sections:

- Dr. David B. Fogel, who provides an extensive overview on designing evolutionary algorithms for problem solving.
- Dr. Mohamed El- Sharkawi, on evolutionary techniques for vulnerability assessment on power systems.
- Dr. Piero Bonissone, on hybrid soft computing systems using fuzzy logic and evolutionary algorithms.
- Dr. Stephan Freer, who addresses AGDOCK, a software application that utilizes evolutionary computation to a significant problem in receptor-based drug design.
- Roundtable discussion covering practical issues of implementing evolutionary algorithms.

After viewing the tutorial you will know:

- * The basic principles of evolutionary computation
- * How to design evolutionary algorithms to fit your problems
- * Details from experts who have applied evolutionary algorithms to their own problems

The single CD-ROM, based on the four power point presentations, features menu jump capabilities, navigation, full audio, and an MPEG player video component. Dual platforms (MAC and PC) supported.

Minimum systems requirements: 200 mhz Pentium or PowerMac; Windows95/98 or MacOS 8.0 minimum; 100 MB free space on hard drive; 8x CD-ROM drive; 16 bit sound card; SVGA display; 800 x 600 display resolution; thousands of colors display; QuickTime 4.0.

Member Price: \$250.00

List Price: \$312.50

IEEE Order #: EC126

The CD-ROM can be ordered from the IEEE Customer Service Department, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331, USA; by e-mail: customer-service@ieee.org; by phone: 1-800-678-4333; and on the Web at <http://shop.ieee.org/store/> For further information on Education Activities check out our Website <http://www.ieee.org/organizations/eab/index.htm>.

WHITHER TRANSMISSION RELIABILITY? SELECTED READINGS AVAILABLE

PISCATAWAY, NJ, June 20, 2000 - Will the bulk electric power system be as reliable in the future as it has been in the past? The Evolution of Electric Power Transmission Under Deregulation, edited by John A. Casazza and George C. Loehr, is a compendium of over fifty of the most current and classic articles on transmission under deregulation which seeks to enlighten the reader on this subject. According to John Casazza, "Those restructuring the electric power industry have ignored the effects on the reliability of our electric transmission systems. Risks of blackouts and power shortages continue to grow. New technical and institutional solutions are needed. If these are not coordinated, reliability will continue to decline while costs continue to increase."

These selected readings provide up-to-date information and an overview valuable not only to those working in the field, but also to those in power policy positions, offering under one convenient cover a choice selection of papers and articles on transmission reliability. Areas covered include:

- An overview of electric power systems
- Transmission System Planning & Design
- Transmission System Operation
- Transmission Transfer Capability
- Restructuring, Reliability & Transmission Capability
- Transmission System Components & Research
- Communications, Information Security & Other Factors

Experts John A. Casazza, P.E. and George C. Loehr have carefully selected the most significant and valuable articles for this volume. Mr. Casazza, an award winning IEEE Life Fellow, has worked in industry and served the community and nation as a member of various Councils and Panels for 54 years. He has testified extensively as an expert witness before Federal and state regulatory bodies. Mr. Loehr's career in transmission planning in the Northeast spans more than 35 years. He is a recognized national expert on electric power system reliability.

To order The Evolution of Electric Power Transmission Under Deregulation, List price \$69.95, IEEE Member price \$49.95, use product number SR112. Order from the IEEE Customer Service Department, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331, USA; e-mail: customer-service@ieee.org; phone: 1-800-678-4333; Web: ONLINE STORE at <http://shop.ieee.org/store/>. For other educational products access: <http://www.ieee.org/organizations/eab/cathome.htm>

CLINTON ADDRESSES NATION ON-LINE TO ANNOUNCE E-GOVERNMENT INITIATIVES

WASHINGTON, June 29, 2000 - In a June 24 webcast, President Clinton gave what the White House billed as the first Internet Address to the Nation designed to highlight the Administration's new "E-Government" initiatives. Among the highlights:

- * Plans to launch Firstgov.gov within 90 days. Firstgov.gov is envisioned as a single point of entry for access to all government information and services;
- * Expanding on-line government services so that citizens not only the ability to send and receive information, but also to conduct sophisticated transactions such as applying for grants or buying/selling goods and services on-line.
- * Launching a major competition to spur new innovative ideas for how government can serve and connect with our citizens electronically.

To hear a replay of the address and for more information about the Administration's proposals, see: <http://www.whitehouse.gov/WH/New/html/internet2000-06-24.html>

NSF INDICATORS HIGHLIGHTS SCIENCE AND ENGINEERING TRENDS

WASHINGTON, June 29, 2000 - According to the recently released Science and Engineering Indicators 2000 report released by the National Science Foundation's National Science Board, strong R&D growth (particularly in industry) is continuing to boost the U.S. economy. Among other trends highlighted:

- * The U.S. science and engineering enterprise is in fundamental transition due to the increasing globalization of research and development (R&D) and the prolific growth of information technology (IT);
- * New information technologies (IT) are reshaping the U.S. work force and are now widely used in the home, but the adoption of IT varies greatly by industry, individual income level, ethnicity and geographic location;
- * While Americans' confidence and interest in science and technology is very high, their understanding of basic science facts and principles remains quite low; and
- * Retirements among college-educated S&E workers will rise dramatically over the next 10 to 15 years, especially among Ph.D. holders, while the expected demand for S&E workers overall is expected to greatly increase in the decade between 1998-2008, growing at almost four times the rate of all other occupations.

View the Science and Engineering Indicators 2000 report on-line at <http://www.nsf.gov/sbe/srs/seind00/start.htm>.

See related media news releases and backgrounders, at http://www.nsf.gov/od/lpa/news/press/00/pr_indicators.htm.

PUBLIC INPUT SOUGHT ON CONSUMER PROTECTIONS IN INFORMATION TRANSACTIONS AND E-COMMERCE IMPLICATIONS FOR COPYRIGHT

WASHINGTON, June 29, 2000 - The Federal Trade Commission has announced plans for National High Tech Forum this Fall to examine warranty protection for software and other computer information products and services that are marketed to consumers, especially in light of recent legislation such as the Uniform Computer Information Transactions Acts currently under consideration by several states. The Commission hopes to facilitate discussion of how government, private industry, and consumer advocates can work together to ensure that consumers receive adequate information when purchasing software and other computer information products and services. To that end, FTC is soliciting academic papers and public comments on a series of 16

questions by September 11. The notice, questions, and instructions are available on-line at: <http://www.ftc.gov/os/2000/05/hightechforum.htm>.

How does E-Commerce affect copyrights for businesses, universities, organizations, and individuals? The United States Copyright Office and the National Telecommunications and Information Administration are soliciting public comments on the effects of the amendments made by Title 1 of the Digital Millennium Copyright Act, ("DMCA") and the development of electronic commerce on key aspects of U.S. copyright law. 16 specific questions have been outlined for comments, which must be received by August 4, 2000. Reply comments will be accepted through September 5. The Federal Register notice with instructions and the questions is available for review on-line at: <http://www.loc.gov/copyright/fedreg/65fr35673.pdf>.

GAO FINDS FEDERAL LABS VULNERABLE TO COMPUTER ATTACKS

WASHINGTON, June 29, 2000 - A General Accounting Office (GAO) report released today finds "significant continuing vulnerabilities" in the Department of Energy's (DOE) computer systems for unclassified civilian research. The report, requested by House Science Committee Chairman F. James Sensenbrenner, Jr., (R-WI) and Ranking Minority Member Ralph M. Hall (D-TX), says, "In four recent cases, Internet-based attacks forced specific laboratories to disconnect their networks from the Internet, interrupting scientific research for as long as a week on at least two occasions."

See the GAO Report at: <http://www.gao.gov/new.items/ai00140.pdf>.

GRANT TO STRENGTHEN U.S. PARTICIPATION IN INTERNATIONAL STANDARDS

WASHINGTON, June 29, 2000 - On June 16, the National Institute of Standards and Technology (NIST) announced a \$500,000 grant to the American National Standards Institute (ANSI) to help ANSI advance U.S. interests in international standardization and conformity assessment-technical areas that define the terms of access to global markets. In addition to helping to coordinate the efforts of the U.S. voluntary standards community, ANSI represents the United States in the International Organization for Standardization (ISO) and the International Electrotechnical Committee (IEC). Congress has specified that grant funds will be used solely for international standards activities, including support for ISO and IEC dues and participation, as well as U.S. involvement in standards activities in the Americas and the Asia Pacific region.

See NIST Press Release at

http://www.nist.gov/public_affairs/releases/ansi.htm.

See ANSI Press Release at

<http://web.ansi.org/public/news/2000june/grant.html>.

CONGRESS CONSIDERS MARRIAGE PENALTY TAX RELIEF

WASHINGTON, June 29, 2000 - The Congressional Budget Office estimates that 42% of all married couples currently pay an average of \$1,400 more in taxes than they would if each filed individually. Republican proposals under consideration in the House and the Senate would double the standard deduction and expand the lowest tax brackets to provide the average married couple with an estimated \$471 in annual tax relief. Democrats in both houses of Congress would allow married couples earning up to \$100,000 annually to calculate their taxes as though they were single, if that status would result in a lower total obligation. Both sides are working behind the scenes to see whether they can come to agreement before Congress adjourns in October. IEEE-USA supports the marriage penalty tax relief and has released a grassroots legislative advisory on the subject.

See <http://congress.nw.dc.us/cgi-bin/alertpr.pl?dir=ieee&alert=133>.

IEEE-USA POLICY COMMUNICATIONS

WASHINGTON, June 29, 2000 - On June 21, IEEE-USA joined with the Association for Computing Machinery and Computer Professionals for Social Responsibility in a letter to sponsors of the Internet Integrity and Critical Infrastructure Protection Act of 2000 (S.2448) endorsing the goal of infrastructure protection, but expressing concerns about the bill's potential impacts on personal privacy. See text at <http://www.ieeeusa.org/forum/POLICY/00june21.html>.

On June 19, IEEE-USA wrote to the House Ways and Means Committee urging passage of proposed pension reform and IRA expansion legislation currently under consideration. See text at <http://www.ieeeusa.org/forum/POLICY/00june19.html>.

On June 13, IEEE-USA wrote to members of the House of Representatives urging them to act on employment-based immigration reforms and inclusion of workforce protections as part of their forthcoming legislation on high-tech guest workers. See text at <http://www.ieeeusa.org/forum/POLICY/00june13.html>.

Representatives of IEEE-USA's Committee on Communications and Information Policy presented on "The Impact of Future Telecommunications Infrastructures" as part of the Internet and Society 2000 Conference held at Harvard University on May 31-June 2. See the summary report on-line at <http://www.ieeeusa.org/committees/CCIP/harvard/index.html>.

FROM THE PRESIDENT: WHO NEEDS A UCITA?

By Merrill W. Buckley, Jr.

I'll admit, it sounds boring: the Uniform Computer Information Transaction Act. But UCITA (rhymes with, 'you don't need a') will turn you from someone who owns information technology, to someone who is allowed - for a time, and at a price, as long as you don't make it work better -- to use other people's property. That's a bad idea, which is why the IEEE-USA is fighting it on your behalf.

And we will need your help to win.

In a way, UCITA is an attempt by software manufacturers to modernize the different state laws that govern commerce, which are often outdated when it comes to the shifting paradigms of the New Economy. That needs to be done, and as the U.S. members of the world's largest technical society, we're ready to help.

But the actual "one size fits all" law that UCITA backers want to pass amounts to a free pass for the software industry. If you work with computers, especially if you like to tweak and tinker with technology, you should oppose UCITA. Most of all if you depend on software for doing business you should join us in presenting a comprehensive, unified opposition to this terrible, Trojan Horse legislation.

Consider the following true life example. A contractor buys software to prepare the complex bids on which his business depends. All he has to do is fill out pre-programmed forms with all the variables, and it will tell him what to bid, to meet his needs with the all-important competitive edge to get the contract. So he carefully works out what materials he needs, staffing, and budget projections - and he confidently offers what he is certain will be the winning bid.

But it's not. A competitor bid less. Astonished, he double-checks his losing bid - by hand this time, to learn that the software wasn't so reliable after all. It added when it should have subtracted - costing him the contract, maybe killing his company.

In most states, he could sue the software maker for a defective product. But by buying the software with its liability-waiving license written in dense small print further obscured by shrinkwrapping, he had given up the right to sue - in states that have passed UCITA. (Has yours?)

Not only will this be a kind of "get out of jail free" card, handed over to the software manufacturers every time we buy or use software, or anything which has software in it - which soon mean just about everything. But it will also have a chilling effect on innovation and competition - to say nothing of accountability - for software makers and users alike. If you tweak your devices to work better, you may have violated your license - not to speak of professionals who reverse-engineer for improvements or compatibility. And if you violate your license, UCITA authorizes the software maker to disable your equipment.

Because UCITA is a battle to be fought, state by state - not the U.S. Congress - it is an example of the old adage: "All politics is local." Go to <http://www.ieeeusa.org/grassroots/ucita> to find out if your state legislature has taken up UCITA, and what you can do to fight it.

Ask questions, and start looking on your IEEE-USA Website for the answers.

DISCOUNT ON PROJECT MANAGEMENT COURSES OFFERED

PISCATAWAY, NJ. July 7, 2000 - Management Concepts, a global leader in project management training, is offering classes to IEEE members at a special 10% discount. Management Concepts is an innovator that consistently provides timely, targeted information and knowledge-based products to people requiring business-related skills.

Take the next step in career development by learning project management. The discipline of project management is critical for success and is becoming a required area of expertise for career advancement.

These 2 to 5 day courses are awarded Continuing Education Units making it ideal for fulfilling professional obligations. Courses are held at a variety of locations and times during the year.

Among the 35 Project Management courses offered are:

- Project Management Principles, covering the fundamentals necessary for each phase of the project life cycle.
- Leadership and communication skills for project managers, covering the forms of leadership best suited to your personality and how to use techniques to manage and resolve conflict, change and personnel issues.
- Managing multiple projects and geographically dispersed projects, focusing on the challenges of co-locations, virtual teams, conflicting priorities and limited resources.
- Negotiation for project management executives, examining the negotiation process, how to determine what is negotiable, recognize needs and vulnerabilities, and improve negotiating techniques.

The Management Concepts courses join the growing list of educational opportunities to be found at the IEEE professional development institute (PDI) when it opens in September 2000. The IEEE PDI will maximize life long learning and professional development opportunities for IEEE members globally.

To register or for full course selection and schedules visit <http://www.managementconcepts.com> or call 1.800.232.9096. The IEEE member discount can be applied to any course offered by Management Concepts. For further information contact Alan Trembly, a.trembly@ieee.org.

**IEEE-USA ISSUES LEGISLATIVE ALERT URGING MEMBERS TO ACT NOW TO SUPPORT
HOUSE PASSAGE OF PENSION PORTABILITY AND IRA EXPANSION PROPOSALS**

WASHINGTON, July 10, 2000 - The Republican leadership has announced plans to mark-up a major retirement security reform proposal in the House Ways and Means Committee as early as July 13th and to try to move the bill to the floor for approval by the House of Representatives during the week of July 17-21. The measure will include major pension portability improvement and IRA expansion provisions long supported by IEEE-USA and other engineering societies.

IEEE-USA's Legislative Action Alert encourages concerned U.S. members to communicate their support for the "Portman-Cardin Plus" pension reform proposal (H.R. 1102) to their own Members of the United States House of Representatives and to do so at once. A flood of communications from concerned constituents will be needed to make that happen in the short time remaining in the 106th Congress.

The Alert, with additional background information and a model letter which you customize and send to your U.S. Representative, is available on-line in IEEE-USA's Legislative Action Center:

See LAC: <http://congress.nw.dc.us/ieee/>

See Alert: <http://congress.nw.dc.us/cgi-bin/alertpr.pl?dir=ieee&alert=134>

For more information on IEEE-USA legislative efforts related to retirement security, visit:

<http://www.ieeeusa.org/grassroots/pensions/index.html>

HOUSE PASSES LEGISLATION TO ENHANCE PENSIONS/IRA'S

WASHINGTON, July 21, 2000 - On July 19, the House of Representatives voted 401 to 25 to approve the Comprehensive Retirement Security and Pension Reform Act (HR1102), legislation that would:

- * Increase the annual contribution limit to deductible Individual Retirement Accounts (IRAs) from the current \$2,000 to \$5,000 over the next three years,
- * Increase contribution, benefit and deduction limits to defined contribution plans, including 401(k), 403(b), Section 457, salary reduction SEP and SIMPLE plans,
- * Allow \$5,000 "catch-up" contributions to 401K-type plans and IRAs for workers aged 50 and above,
- * Reduce defined contribution vesting requirements for employer matching contributions from 5 to 3 years,
- * Improve pension portability by facilitating the transfer of earned benefits among and between defined contribution plans and IRAs,
- * Simplify complex minimum distribution, non-discrimination and top-heavy rules, and
- * Mandate additional disclosure of plan amendments that will result in a significant reduction in benefits and a Treasury Department study of the effects of conversions from traditional defined benefit plans to hybrid cash balance plans.

Before approving the bill, the House rejected a proposed Democratic alternative by a vote of 221 to 200. The alternative would have added provisions offering refundable tax credits for low income IRA contributions, tax credits to help defer the cost of setting up and administering small business pension plans, and a resolution

calling for additional protections for plan participants likely to be adversely affected by conversions from traditional defined benefit pensions to new (career average) cash balance plans.

At this point, it is unclear just when the Senate will take up its version of the pension reform/retirement saving proposal, although Republicans want to send a compromise to the President in September, alone or as part of a larger election-year tax cut proposal.

IEEE-USA extends a thank you to the hundreds of members who replied to our Action Alert and wrote your Representatives in support of H.R. 1102. We are currently refocusing our efforts to support passage of this legislation in the Senate. To monitor the latest information, consult our Retirement Security Grassroots Network at <http://www.ieeeusa.org/grassroots/pensions/>.

IEEE-USA is also invited member feedback on a proposed position statement on cash balance pension plan conversions. See draft text at <http://www.ieeeusa.org/boards/Forum2/HTML/000004.html>.

HOUSE PASSES ANTI-SPAM MEASURE

WASHINGTON, July 21, 2000 - The House passed the Unsolicited Commercial Electronic Mail Act (H.R. 3113) on July 18 by a vote of 427 to 1. The bill, offered by Rep. Heather Wilson (R-NM) and Rep. Gene Green (D-TX), would require that unsolicited "commercial" email must be identified as such and accompanied by a valid reply address and instructions so that the recipient can opt out of future mailings. It provides a cause of action for damages if the sender fails to respond to a removal request within a reasonable time. Individuals will also be able to file complaints through the Federal Trade Commission (FTC), which is empowered to investigate incidents and recover penalties. The bill would shield Internet Service Providers from liability for either blocking or retransmitting unsolicited commercial email. The bill now moves to the Senate for consideration.

Previous state attempts to regulate e-mail spam have been ruled unconstitutional by state courts in Washington state and California as inappropriate restrictions on interstate commerce.

SENATE LEADERS NEGOTIATING DEAL TO BRING GUESTWORKER BILL TO THE FLOOR

WASHINGTON, July 21, 2000 - In the Senate, Republican and Democratic leaders have been attempting to negotiate a unanimous consent agreement that would allow them to bring the high-tech guestworker legislation (S.2045) authored by Senators Orrin Hatch (R-UT) and Spencer Abraham (R-MI) to the floor with a fixed number of amendments and limited time for debate. An attempt to move the bill last week was blocked by Sen. Judd Gregg (R-NH), who objected to the "extraneous" Democratic amendments. The most recent "agreement" would let the Democrats offer five amendments (including immigration amnesty) to the H-1B bill, and also offer an immigration adjustment amendment for Central Americans as part of the Elementary and Secondary Education Reauthorization Act. However, that deal collapsed on Thursday, when Senator Phil Gramm (R-TX) objected to bringing the ESEA bill to the floor. The latest word is the Minority Leader Tom Daschle (D-SD) is still negotiating with Senate Republican leaders on new terms that could allow a vote to occur sometime as early as next week.

In the House, no action is currently scheduled on guestworker legislation (H.R. 4227) offered by Rep. Lamar Smith (R-TX). However, Rep. Zoe Lofgren (D-CA) recently sent a letter co-signed by fellow Democrats James Moran (VA), Adam Smith (WA), Calvin Dooley (CA), Robert Matsui (CA) and Anna Eschoo (CA) urging the Republican leadership to bring a bill to the floor and distancing themselves from the White House, which is threatening a veto unless the measure includes immigration amnesty provisions (the so-called "H-1B Plus" agenda) sought by the labor unions and immigration groups.

SENATE REAUTHORIZES SMALL BUSINESS RESEARCH PROGRAM

WASHINGTON, July 21, 2000 - On July 19, the Senate passed revised legislation (H.R.2392) by Rep. James Talent (R-MO) to reauthorize the Small Business Innovative Research (SBIR) program through FY 2008. The SBIR program earmarks 2.5 percent of federal R&D funding in designated funding agencies as a set-aside for research grants, contracts and cooperative agreements with small high-tech companies. The Senate bill also reauthorizes the Federal and State Technology Partnership (FAST), a five year, \$50 million program to help states provide assistance to small technology businesses. The Senate version of H.R. 2392 must now be considered in the House, which is expected to expedite passage before the SBIR program officially sunsets on Sept. 30.

For more information on SBIR, see <http://www.seeport.com/Conference/Links.htm>.

PROSPECTS FOR ELECTRICITY RESTRUCTURING DIMS

WASHINGTON, July 21, 2000 - The decision by House Commerce Committee Chairman Thomas Bliley, Jr. (R-VA) to postpone a scheduled July 13 hearing to mark-up the Electricity Competition and Reliability Act (H.R. 2944) may be the final blow to hopes for passage of comprehensive electricity restructuring legislation in the 106th Congress. The Senate similarly suspended action on a comparable measure (S.2098) last month.

H.R. 2944 was introduced by Rep. Joe Barton (R-TX), chair of the Commerce Committee's Energy and Power Subcommittee. Bliley objects to provisions of Barton's bill that would assign responsibility for oversight of electric transmission to the states and was expected to offer an amendment that would empower the Federal Energy Regulatory Commission to provide that oversight. Barton indicated that he would strongly oppose the amendment, which prompted the postponement decision.

SENATE RESTORES FUNDING FOR PATENT & TRADEMARK OFFICE

WASHINGTON, July 21, 2000 - On June 26, the House approved a Commerce, Justice, State appropriations bill (HR 4690) that would have diverted nearly \$295 million in U.S. Patent and Trademark Office (PTO) fees to fund other federal agencies. PTO responded with a warning that this diversion would force a hiring freeze. According to PTO Director Todd Dickinson, the resulting freeze would "result in more than 48,000 patent applications being denied an initial examination, 34,000 patents not being allowed, and an additional 68,000 patents actually not issuing." The cut prompted an outcry by concerned organizations, including IEEE-USA, which wrote key Senate appropriators on July 14 urging restoration of this funding. On July 18, the Senate Appropriations Committee approved its version of the bill, which restores \$262 million of the funding diverted by the House. House and Senate conferees will meet shortly to reconcile the differing bills.

See Dickinson's Letter to Congress on impacts at http://www.uspto.gov/c_b_directorresponse.pdf

See IEEE-USA's letter to the Senate at <http://www.ieeeusa.org/forum/POLICY/00july14.html>

SENATORS BOND & MIKULSKI PROPOSE DOUBLING NSF BUDGET

WASHINGTON, July 21, 2000 - On July 12, Senators Kit Bond (R-MO) and Barbara Mikulski (D-MD) circulated a "Dear Colleague" letter asking fellow Senators to join in urging the Senate leadership to support a five year plan to double the budget of the National Science Foundation. Bond, who chairs the House Appropriations subcommittee that funds NSF, and Mikulski, who is the ranking Democratic member, told their colleagues that increased support at NSF was needed to parallel funding growth for research at the National Institutes of Health because of a "strong belief that the success of NIH's efforts to cure deadly diseases such as cancer depends on the underpinning of research supported by NSF."

Bond and Mikulski's proposal was endorsed in supporting letters by Dr. Kenneth Shine, President of the National Academies' Institute of Medicine, and by Dr. Harold Varmus, former head of NIH.

See Mikulski press release at <http://www.senate.gov/~mikulski/press/00/07/2000719511.html>

IEEE-USA LAUNCHES ELECTION CENTER 2000 ON-LINE

WASHINGTON, July 21, 2000 - As a member service, IEEE-USA's Legislative Action Center On-Line has expanded to include an Election 2000 Center with candidate and campaign information. The Election Center covers both Presidential and Congressional elections, with information broken down by state, and with key primary and general election dates. Other featured resources include focuses on key races and election outlooks, links to election-related resources, and on-line voter registration via an integrated link to BeAVoter.Com.

You can check it out at: <http://congress.nw.dc.us/cgi-bin/election.pl?dir=ieeusa>.

Or visit our LAC and select the Election 2000 link at <http://congress.nw.dc.us/ieeusa>.

NEWSBYTES

WASHINGTON, July 21, 2000 - On July 13, the House Science Subcommittee on Technology held a hearing on the findings and recommendations of the Commission on the Advancement of Women and Minorities in Science, Engineering, and Technology Development. A copy of the Commission report can be obtained by calling 703-306-0597. Testimony can be reviewed on-line at http://www.house.gov/science/106_hearing.htm#Technology. The report will be available on-line in late August at <http://www.nsf.gov/od/cawmset/>.

On July 11, the House approved by voice vote the Mobile Telecommunications Sourcing Act (4391), legislation that would modify current law so that wireless customers are taxed only in their place of primary use. The measure is designed to simplify billing and eliminate confusion for mobile wireless customers whose calls often originate in different tax jurisdictions as they travel. Similar legislation is currently pending in the Senate.

On July 17, the White House announced that it would propose legislation to set legal requirements for Internet surveillance by federal law enforcement authorities. The announcement comes in the wake of the Federal Bureau of Investigation's disclosure of their Carnivore system, which can be attached to computer networks to sniff through incoming or out-going e-mail and capture those network packets deemed relevant to on-going investigations. For more information on Carnivore, see <http://www.fbi.gov/programs/carnivore/carnivore.htm>.

RECENT REPORTS OF NOTE

WASHINGTON, July 21, 2000 - The Dynamics of Technology-based Economic Development: State Science and Technology Indicators (U.S. Department of Commerce, Technology Administration, Office of Technology Policy, June 2000). This report provides an overview of each state's "technology infrastructure" using data collected on 37 metrics in five general topical areas: funding in-flows (10 indicators); human resources (9); capital investment and business assistance (5); technology intensity of the business base (5); and, outcome measures (8). You can download a copy of at <http://tapreview.nist.gov/PRel/tapub.pdf> or by following the link at <http://www.ta.doc.gov/Reports.htm>.

Federal Rulemaking: Agencies' Use of Information Technology to Facilitate Public Participation. (General Account Office, U.S. Congress, GGD-00-135R, June 30, 2000). This report surveys selected federal agencies and outside organizations to illustrate how information technology (IT) is being used to facilitate public participation in the federal rulemaking process. Download at <http://www.gao.gov/new.items/gg00135r.pdf>

Making the Economy Grow: An Action Agenda (Progressive Policy Institute, July 20, 2000). This report, by the policy arm of the Democratic Leadership Council, outlines the "New Democrats" agenda for promoting the

high-tech economy. See report at http://www.dleppi.org/ndol_ci.cfm?kaid=131&subid=192&contentid=1510. Also see a related press release by Senator Joe Lieberman (D-CT) at <http://lieberman.senate.gov/~lieberman/press/00/07/2000719736.html>.

TWO WAYS TO LEARN ABOUT REAL-TIME SIGNAL PROCESSING AVAILABLE

PISCATAWAY, NJ., July 17, 2000 - Meet the challenge of moving from research to real life applications with two new offerings from IEEE Educational Activities, a self-study course and a selected reading book. Commit to an 80-hour course or use the selected readings as a primer for application writing to learn this vital system.

According to Philip A. Laplante, Dean of Pennsylvania Institute of Technology and editor of the Real-Time Image and Signal Processing Selected Readings, "Real-time signal processing differs from "ordinary" signal processing in that the logical correctness of the system requires correct and also timely outputs. Real-time has no tolerance of missed deadlines. Even one missed deadline can result in total system failure."

The self-study course, Real-Time Signal Processing, developed by John G. Ackenhusen, Veridian, ERIM International, Inc., covers the entire process of implementing signal processing algorithms, from real-time concepts to multiprocessors and tradeoff analyses. This course also walks through the entire system design process from requirements development through life-cycle systems engineering, project management, integration, testing, and maintenance.

The complete course includes a study guide, a workbook, and the text: Real-Time Signal Processing, Ackenhusen, Prentice Hall; a final examination is provided in paper format, and, in September, the examination will be available by web at IEEE Professional Development Institute (PDI). 8 Continuing Education Units (CEUs) and a Certificate of Achievement are awarded upon successful completion of the course.

John G. Ackenhusen has been involved with research in real-time signal processing since 1978. Following his work in speech recognition at AT&T Bell Labs, he joined the Environmental Research Institute of Michigan, now ERIM International, Inc., leading efforts in recognition processor and algorithm design. He is a fellow of IEEE, past President of the IEEE Signal Processing Society, and past director of the IEEE Signals and Applications Division. He received his Ph.D. from the University of Michigan.

Real-Time Signal and Image Processing Selected Readings provides introductory-level to intermediate-level readings in the hardware, software, programming languages and applications of real-time image and signal processing. These systems are incredibly important in virtually every application from avionics to industrial inspection and in every application domain from entertainment to defense.

The reader is intended to provide sufficient background for a baccalaureate engineer or scientist who is not familiar with the field to become familiar enough to write software or design systems for these types of applications. The reader is also ideal for managers supervising projects of these types.

The thirty-one selected readings are culled from referred journal articles and reviewed magazine pieces, all IEEE sources, and less than five years old. The articles focus on the following topics: issues and challenges; hardware support; algorithms; software languages and systems; applications and case studies.

Phillip A. Laplante has been a software engineer, project manager, teacher, researcher, and author for almost 20 years. His experience includes designing software for embedded avionics like the Space Shuttle; building computer aided design software for commercial use and developing software and best practices for software testing. He has written 13 books and currently edits two book series, Complex Systems and Image Processing.

He is a licensed Professional Engineer in Pennsylvania and New Jersey and received his Ph.D. in computer science with a dissertation in digital signal processing from Stevens Institute of Technology.

Real-Time Signal Processing Self-study Course, IEEE Product No. HL5765 List: \$475.00/Member: \$375.00

Real-Time Image and Signal Processing Selected Readings, IEEE Order No. SR116 List: \$69.99/Member: \$49.95

Both the self study course and the selected readings can be ordered from the IEEE Customer Service Department, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331, USA; by e-mail: customer-service@ieee.org; by phone: 1.800.678.4333; or on the Web at <http://shop.ieee.org/store/> For further information on Education Activities check out our Website <http://www.ieee.org/eab>.

IEEE-USA INVITES MEMBER INPUT TO 2001-2002 LEGISLATIVE AGENDA

WASHINGTON, August 11, 2000 - Every two years at the start of each new federal Congress, IEEE-USA publishes a Legislative Agenda, which highlights IEEE-USA's legislative priorities during the coming legislative session and informs IEEE U.S. members, policy-makers, other organizations and the public about our profession's public policy concerns. To help IEEE-USA set its agenda for the 107th Congress in 2001, U.S. IEEE members are invited to participate in an on-line survey of public policy priorities.

Survey participants are asked to evaluate fourteen prospective issues in terms of your personal support for IEEE-USA's proposed position and the relative priority you place on this issue. You can also recommend alternative issues and provide general feedback. The survey will run through October 2, 2000. Based on the survey responses and other input received regarding the outlook for legislation in the 107th Congress, IEEE-USA's Board of Directors will narrow down the list to 5-10 high priority issues comprising the Legislative Agenda at its November 2000 meeting.

For more information and to participate in the survey, go to <http://www.ieeeusa.org/forum/survey>.

PRESIDENT SIGNS FY 2001 DEFENSE R&D FUNDING INCREASES INTO LAW

WASHINGTON, August 11, 2000 - On August 8, President Clinton signed into law FY 2001 appropriations legislation for the Department of Defense (Public Law 106-259), which will increase total federal defense R&D spending by approximately 9 percent to \$41.4 billion. Funding for DoD's basic research, applied research, and advanced technology development programs are slated to increase 6.8 percent to \$8.96 billion, distributed as follows:

- * Basic research would receive \$1.31 billion, \$96 million more than the President requested, and \$152 million more than the current fiscal year.
- * Applied research would total \$3.68 billion, \$535 million more than requested by the President, and \$269 million more than it received in FY2000.
- * Advanced technology development would receive \$3.97 billion, \$794 million more than the President's request, and \$149 million more than in FY2000.

Appropriations for key development, test and evaluation programs include \$688.7 million for the Joint Strike Fighter Program, \$355 million for the Army's Crusader next generation howitzer program, \$614 million for the Army's Comanche helicopter, \$292 million for the DD-21 next generation destroyer, \$1.4 billion for F-22 development, \$130 million for B-2 development, \$569 million for the Space-Based Infrared System (SBIRS)

High, \$332 million for the Evolved Expendable Launch Vehicle program, and \$30 million to continue research on low cost electronically scanned array radar technologies for space applications.

These defense increases stand in stark contrast to current proposals for FY 2001 civilian R&D appropriations, which will be featured next week in a special focus issue of Eye on Washington.

HOUSE SCIENCE COMMITTEE REPORTS COMPUTER SECURITY AND E-COMMERCE BILLS
WASHINGTON, August 11, 2000 - Prior to departing Washington for the August recess, the House Science Committee passed by voice vote legislation to strengthen the National Institute of Standards and Technology's (NIST) role in ensuring the computer security of federal information technology. The Computer Security Enhancement Act of 1999 (H.R. 2413) makes NIST the lead agency for civilian agency computer security standards and directs NIST to work cooperatively with the private sector to promote the Federal government's use of commercially available off-the-shelf products in establishing systems to protect information technology. The bill also authorizes NIST to perform evaluations and tests and provide guidance and assistance to federal agencies with secure computer systems. Finally, the bill gives increased authority to an independent board to advise NIST on computer security and privacy protection policies.

The Committee also passed the Electronic Commerce Enhancement Act of 2000 (H.R. 4429), which would create a pilot program to assist small and medium-sized businesses integrate electronic commerce initiatives into their operation. The bill also directs NIST to assess enterprise integration standards and implementation throughout the industrial supply chain. According to Technology Subcommittee chair Constance Morella (R-MD), "this bill will continue to ensure that NIST plays a meaningful role in helping small and medium-sized manufacturers remain competitive in the new digital economy."

Both H.R. 2413 and H.R. 4429 are pending consideration by House in September, but given the tight Congressional schedule and the October 6 target date for adjournment, neither bill is likely to become law this year.

FCC APPROVES NEW 511 NUMBER FOR TRAFFIC INFORMATION

WASHINGTON, August 11, 2000 - On July 21, the Federal Communications Commission (FCC) approved the U.S. Department of Transportation's (DOT) request to reserve the 511 number as a traffic information number for use by states and local jurisdictions. Information about 511 implementation and conversion, as well as funding available through the conversion grant program, is available on-line at <http://www.its.dot.gov/511/511.htm>.

BILL INTRODUCED TO BAN "PERMA-TEMPING"

WASHINGTON, August 11, 2000 - In late July, Senator Edward M. Kennedy (D-Mass.) and Representative Robert E. Andrews (D-New Jersey) introduced the Employee Benefits Eligibility Fairness Act of 2000 (S.2946/H.R. 4962), legislation which would address the problems of "permatemping" -- the increasing practice of labeling regular employees as "temporary" or "contract" workers, which enables employers to withhold access to health, pension, leave, and other benefits. Also under the spotlight is "payrolling," or the practice of releasing and rehiring staff that don't meet the test for independent contractor status through temporary agencies. The Employee Benefits Eligibility Fairness Act would require employee benefit plans to meet objective eligibility criteria based on the actual terms and conditions of employment and require that exclusions from benefit plans be based on objective classifications, such as job categories, not labels. It would also prohibit the related practice of requiring such employees to sign benefit waivers.

Both bills were referred to committee and see little prospect for action before the 106th Congress adjourns, but help raise awareness of a problem that affects an increasing number of workers, especially in the high-tech workforce.

The legislation was prompted by a General Accounting Office (G.A.O) report, which found that "employers are attempting to avoid legal responsibility for workers by claiming that they are not the employer." See the GAO Report, Contingent Workers: Incomes and Benefits Lag Behind Those of Rest of Workers (June 2000) at <http://www.gao.gov/new.items/he00076.pdf>.

GALLUP SURVEY FINDS VOTER PREFERENCE FOR S&T FRIENDLY CANDIDATES

WASHINGTON, August 11, 2000 - According to a recent Gallup Survey sponsored by the Bayer Corporation and NSF on public attitudes toward Science and Technology (S&T) and education, Americans take pride in our nation's leadership in science and technology, support continued investments in research and development, and are concerned that our educational system is not preparing students for the challenges that lie ahead as the pace of scientific discovery increases.

A significant majority of Survey respondents indicated that they are more likely to vote for candidates in this year's election who put a high priority on supporting science and technology, strengthening science education and technical literacy, and expanding access to the Internet.

Highlights of "Bayer Facts of Science Education VI: Americans' Views on Science, Technology, Education, and the Future" are available on-line at <http://www.bayerus.com/msms/news/indexfact.html>.

DOE SEEKS PUBLIC COMMENT ON ENVIRONMENTAL IMPACTS OF CIVILIAN NUCLEAR ENERGY R&D

WASHINGTON, August 11, 2000 - The Department of Energy has released for public comment a Draft Programmatic Environmental Impact Statement (PEIS) for supporting civilian nuclear energy research and development and isotope production missions in the United States, including the role of the Fast Flux Test Facility at the Department's Hanford Site in Washington. Energy Secretary Bill Richardson encourage public feedback, noting "we will work with the communities affected by the options for maintaining the country's nuclear infrastructure to ensure their voices are heard." The public comment period opened July 28, 2000, and ends on Sept. 18, 2000. The Draft PEIS is available on the Office of Nuclear Energy, Science and Technology web site at <http://nuclear.gov>. Copies are also available (on CD-ROM or paper) by calling toll-free 1-877-562-4593. For more information, see <http://www.doe.gov/news/releases00/julpr/pr00192.htm>

NASA ANNOUNCES NEW MARS ROVER MISSIONS

WASHINGTON, August 11, 2000 - On Aug. 10, the National Aeronautics and Space Administration announced its plans to launch two large scientific rovers to Mars in 2003. Using special balloons to cushion their descent, the identical 300 pound mobile laboratories will touch down on January 2 and 20, 2004 and begin chemical and geological surveys designed to unveil the secrets of Mar's ancient water. For more information, see NASA's press release and fact sheets at <ftp://ftp.hq.nasa.gov/pub/pao/pressrel/2000/00-124.txt>

NSF DATA BRIEF SHOWS NATIONAL R&D SPENDING IS CONCENTRATED IN 10 STATES

WASHINGTON, August 11, 2000 - A recent Data Brief by the National Science Foundation shows that research and development in the United States is highly concentrated in a small number of states. Nearly 50% of total R&D is performed in only ten states: California (\$41.7 billion), Michigan (\$14.0 B), New York (\$12.3 B), New Jersey (\$12.1 B), Massachusetts (\$11.1 B), Texas (\$9.5 B), Pennsylvania (\$8.2 B), Illinois (\$8.0 B), Washington (\$7.5 B), and Maryland (\$7.4 B). By contrast the 20 lowest ranking states in R&D expenditures accounted for only four percent of the \$199 billion total.

See the Data Brief at: <http://www.nsf.gov/sbe/srs/databrf/db00325.htm>

RECENT NATIONAL SCIENCE FOUNDATION ANNOUNCEMENTS

WASHINGTON, August 11, 2000 - NSF is soliciting proposals for its Next Generation Software Program and Graduate Research Fellowships:

NSF-CISE Next Generation Software Program <http://www.nsf.gov/pubs/2000/nsf00134/nsf00134.htm>

NSF Graduate Research Fellowship 2001 Program Announcement

<http://www.nsf.gov/pubs/2000/nsf00128/nsf00128.htm>

On Aug. 1, NSF announced the award of \$45 million for 19 Integrative Graduate Education and Research Traineeship (IGERT) grants. IGERT grants support graduate science and engineering students engaged in coursework and research experience in emerging areas of science and engineering, especially areas that transcend traditional disciplinary. For more information, see <http://www.nsf.gov/od/lpa/news/press/00/pr0052.htm>

On 3 August 2000, NSF's National Science Board approved a \$75 million award to the Pittsburgh Supercomputer Center to create a Terascale Computing System in partnership with the Carnegie Mellon University and the University of Pittsburgh. The 6 Teraflop peak computing system will be supplied by the Compaq Computer Corporation. For more information, see <http://www.interact.nsf.gov/cise/descriptions.nsf/pd/tcs/>

NSF is also recruiting candidates for two Director-level positions in the Computer and Information Sciences and Engineering (CISE) Directorate: Director, Division of Information and Intelligent Systems Director, Computer-Communications Research. These positions are available to be filled as Senior Executive Service appointments (career or short term) or through IPA transfers. The solicitation closes on Sept. 29th. For more information, consult the position notices on-line at: <http://www.cise.nsf.gov/>.

AVAILABILITY OF HIGH-SPEED AND ADVANCED TELECOMMUNICATIONS SERVICES

Federal Communications Commission, August 2000 - Press release with attachments highlights the findings of this report (due out in two weeks), which concludes that advanced telecommunications capability is being deployed in a reasonable and timely fashion overall, but that rural Americans, inner city consumers; low-income consumers; minority consumers; tribal areas; and, consumers in U.S. territories are vulnerable to access denial. See http://www.fcc.gov/Bureaus/Common_Carrier/News_Releases/2000/nrcc0040.html

R&D IN THE NEW ENGLAND STATES

The American Association for the Advancement of Science, July 20, 2000 - An update of AAAS' 1997 study of the impacts of federal R&D on the New England states. The latest includes state-level data on R&D, highlights of New England R&D, and several data tables. Among the highlights, the report notes that the New England states received a total of \$4.7 billion in federal R&D obligations in FY 1998, the latest year for which state-level data are available. New England's share of the U.S. total was 6.4 percent in FY 1998, slightly more than New England's 5.0 percent share of the U.S. population. The Department of Defense is the largest support of R&D in the region, with most defense money going to Massachusetts. The Department of Health and Human Services and the National Science Foundation are the next largest supporters respectively. The report can be retrieved at <http://www.aaas.org/spp/dspp/rd/neupdate.pdf>. All eleven AAAS state and regional reports can be found at: <http://www.aaas.org/spp/dspp/rd/states.htm>.

**LAND OF PLENTY: DIVERSITY AS AMERICA'S COMPETITIVE
EDGE IN SCIENCE, ENGINEERING AND TECHNOLOGY**

Commission on the Advancement of Women and Minorities in Science, Engineering, and Technology Development, August 2000 - The Commission has released a summary of its forthcoming report, which is due at the end of August. The summary is available on-line at http://www.nsf.gov/od/cawmset/report/cawmset_brochure.pdf

SPECIAL \$500 DISCOUNT OFFERED ON MBA POWERPAK

PISCATAWAY, NJ, August 21, 2000 - IEEE believes that business know-how is as important as technical expertise when it comes to excelling in today's fast-paced professional arena. IEEE Education has partnered with Global Resources, a global management training and consulting firm, to extend an offer to IEEE members and staff to attend MBA PowerPak (<http://www.MBAPowerPak.com>) at a special discounted price. Register before October 6, 2000 to receive \$500 off the program fee for the Fall 2000 sessions.

Carla Langdon Sivak, Bard Electro Physiology, who attended the IEEE and Global Resources special session in November and December 1999, in Boston, enthused, "The focus on global business and the impact of the Internet was particularly fascinating to me. The timeliness of the content was excellent."

MBA PowerPak is designed for technical/scientific managers who are seeking a management skillset in functional business disciplines such as Business Strategy and Planning, Global Marketing and Operations Management, Information Technology/e-commerce, Organizational Development, Managerial Effectiveness and Ethics. This globally oriented program provides the time-pressed professional a condensed, MBA-type education with practical management tools and methodologies, on-the-job applications, exercises and activities in a dynamic, multi-company classroom environment. The course's content structure is modeled after the curriculums of the top MBA programs, including Harvard's, Stanford's and Wharton's. All MBA PowerPak instructors have advanced degrees in addition to their minimum fifteen years of high-technology business and overseas field experience.

Classroom discussions and case studies are tailored to the kinds of situations IEEE members encounter on the job and provide a great opportunity for networking and interfacing with peers. Fall 2000 MBA PowerPak two-part sessions that will honor the special IEEE member rate include:

Sept. 19 - Sept. 22 and Oct. 17 - Oct. 20, 2000 in Chicago (Lisle, IL)
Oct. 3 - Oct 6 and Oct 31 Nov. 3, 2000 in Somerset, NJ
Oct. 31 - Nov. 3 and Nov. 28 - Dec. 1, 2000 in Orange County, CA (Dana Point, CA)
Nov. 14 - Nov. 17 and Dec. 12 - Dec. 15, 2000 in Boston (Ashland, MA)

Many of the nation's leading corporations including AT&T, Cisco, Johnson and Johnson, Lucent Technologies, Marconi, and QUALCOMM have enrolled their employees in MBA PowerPak. "I am sincerely grateful for the opportunity to attend the MBA PowerPak," IEEE staffer Jo-Ellen Snyder says, "I feel it has opened many more doors for me, and has also made me re-evaluate my career goals in a positive way. From a financial standpoint I would do it again in a heartbeat. There is no price that can be placed on a good education, and the MBA PowerPak is just that."

MBA PowerPak offers:

- The chance to learn core MBA skills without having to enroll in a formal MBA program
- The opportunity to discuss real-world management challenges and obtain experiential input from classroom peers and MBA PowerPak's specialized teaching staff
- Program certification through Northeastern University's College of Business Administration

- 6.3 IEEE Continuing Education Units (CEUs)

After attending the course, German M. Fajardo Muriel, Tovar, Fajardo & Asociados, wrote, "The expectations I had before taking the courses were fully completed at the end of the whole program, not just from the academic point of view, but also from my personal experience because of the great opportunity I had to share with all of you and my classmates. Thank you so much for everything."

The \$500 discount is strictly applicable to MBA PowerPak's Fall 2000 session, expires 6 October 2000, and cannot be extended or combined with any other promotional offers. For more information on the curriculum, instructors, multiple locations/dates, pricing and related details, visit the MBA PowerPak's website at <http://www.MBAPowerPak.com>, call the MBA PowerPak Registration Center toll-free anytime at 1 877 GRTRAIN, or contact Lynn Murison at l.murison@ieee.org.

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